

CLAIMS

WE CLAIM:

1. A method for tracing a computing task in a distributed computing environment, comprising:
 - at a first device, issuing a first call to invoke a first procedure to be executed at a second device that is different from said first device, said first call including tracing information instructing said second device to provide event information regarding the execution of said first procedure at the second device;
 - at said second device, receiving the first call and invoking the first procedure in response to said first call; and
 - at said second device, providing event information in accordance with said tracing information.
2. The method of claim 1, wherein said tracing information specifies a limitation on the content of the event information, and wherein said act of providing event information comprises providing a limited amount of event information in accordance with the specified limitation.
3. The method of claim 1, wherein said event information includes property information descriptive of the event, and wherein said act of providing said event information includes providing said property information.
4. The method of claim 3, further comprising the act of deriving at least some of said property information from an environment present at said second device.
5. The method of claim 3, wherein said property information includes a plurality of attributes, wherein said tracing information specifies a limitation as to a

subset of said attributes, and wherein said act of providing event information includes providing attributed information limited in accordance with said subset.

6. The method of claim 1, wherein said first procedure produces a result, and wherein said method further comprises providing said result to said first device.

7. The method of claim 1, wherein said first procedure issues a second call to invoke a second procedure at a third device different from said first device and said second device, and wherein said method further comprises including said tracing information, or information based on said tracing information, in said second call.

8. The method of claim 1, wherein said second device is a member of a cluster of devices, and wherein said first call is issued to said cluster of devices and assigned to said second device, the identity of said second device being indeterminate at the time of said first call.

9. The method of claim 1, further comprising formatting said event information in accordance with a formatting convention.

10. A computer-readable medium having computer-executable instructions to perform acts comprising:

- determining that generation of event information is enabled;
- generating first event information indicative of a first event occurring during the operation of a program;
- calling a procedure on a remote device whose location or identity is undetermined at the time of the call; and

transmitting to said remote device information instructing said remote device to generate second event information indicative of a second event occurring during the operation of said procedure.

11. The computer-readable medium of claim 10, wherein said generating act includes generating property information descriptive of said first event.

12. The computer-readable medium of claim 11, wherein said property information comprises a plurality of elements, wherein said transmitting act includes transmitting filtering information which limits the property information to be generated to a subset of said plurality of elements.

13. A method for developing software, comprising:
defining, by an operator, a specification of one or more events that may occur during the operation of the software;
providing the specification to a programmer, different from said operator, who develops the software by including instructions in the software to signal the occurrence of at least one of the events; and
running the software, including the act of said operator receiving information which signals the occurrence of the events.

14. The method of claim 13, wherein said specification includes property information descriptive of said one or more events, and wherein said running act includes said operator receiving said property information.

15. The method of claim 13, further comprising creating a library of methods corresponding to said one or more events, said methods being callable from the software, said methods having instructions to signal the occurrence of the events.

16. The method of claim 15, wherein said specification includes property information descriptive of said one or more events, and wherein said act of creating a library comprising including data structure definitions which represent said property information.

17. The method of claim 16, further comprising creating a schema which represents said data structure definitions.

18. The method of claim 15, further comprising enabling a trace mode, wherein at least one of said methods determines that said trace mode has been enabled prior to signaling an event.

19. The method of claim 15, wherein said methods signal the events by communicating the information to an event service, and wherein said event service invokes an event handler in response to the receipt of the information..

20. The method of claim 13, further comprising:
said operator specifying a category of event information to be received,
and wherein said act of said operator receiving information includes receiving only the information within said category.

21. A method for developing software, comprising:
defining, by a programmer: (a) a set of methods invocable by the software which signal the occurrence of events arising during the operation of the software; and (b) a set of properties descriptive of said events, said methods including instructions which create instances of said properties;

creating the software and including calls to said methods in the software;

providing a specification of said methods and said properties to an operator who is different from said programmer and who operates the software and receives, during the course of operation of the software, information which signals the occurrence of the events.

22. The method of claim 21, further comprising creating a schema which represents a predetermined structure or format for said properties.

23. A system for supporting tracing in an application program which executes on a first computing device and which issues a call to a second computing device for at least some processing, the system comprising:

a library residing on the first computing device comprising one or more methods callable by the application program;

an event handler residing on the first computing device which receives events generated by calls to said methods, and which causes the generation of first tracing information in response to said events; and

a trace service component which receives at least some of said tracing information and which generates a remote trace request for forwarding to the second computing device when said tracing information indicates that the application program has issued a call to the second computing device.

24. The system of claim 23, wherein the call to the second computing device is represented in the form of a data structure to be transmitted to the second computing device over a communications medium, and wherein said trace service component attaches the remote trace request to said data structure.

25. A computer-readable medium having stored thereon a plurality of computer-executable components for supporting tracing in an application program that executes on a first computing device and that issues a call to a second computing device for at least some processing, the components comprising:

a library which is installable on the first computing device, said library comprising one or more methods that are executable on the first computing device and that are callable by the application program;

an event handler which is installable and executable on the second computing device, said event handler receiving events generated by calls to said methods and causing the generation of first tracing information in response to said events; and

a trace service component which is executable on the first computing device, which receives at least some of said tracing information, and which generates a remote trace request for forwarding to the second computing device when said tracing information indicates that the application program has issued a call to the second computing device.

26. The computer-readable medium of claim 25, wherein the call to the second computing device is represented in the form of a data structure to be transmitted to the second computing device over a communications medium, and wherein said trace service component attaches the remote trace request to said data structure.